



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/540,657	03/31/2000	Ian Redmond	4154-9-CIP	1692

32605 7590 02/09/2004

MACPHERSON KWOK CHEN & HEID LLP  
1762 TECHNOLOGY DRIVE, SUITE 226  
SAN JOSE, CA 95110

EXAMINER

LE, KIMLIEN T

ART UNIT	PAPER NUMBER
----------	--------------

2653

DATE MAILED: 02/09/2004

21

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/540,657

Applicant(s)

REDMOND ET AL.

Examiner

Kimlien T Le

Art Unit

2653

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 14 October 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-38 and 43-48 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-27 and 34-38 is/are allowed.
- 6) ☒ Claim(s) 28-33, 43-48 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

***Response to Arguments***

1. Applicant's arguments filed on October 14, 2003 have been fully considered but they are not deemed to be persuasive.

Applicant asserts on page 12:

Claim 28 sets forth, *inter alia*, first and second spaced-apart photodetector arrays, "each of the photodetector arrays providing output which is sensitive to position of light along a first axis of the photodetector arrays and substantially insensitive to position of light along a second, substantially perpendicular, axis of the photodetector arrays."

Applicant submits that although Tsuji et al. does disclose a type of photodetector array, Applicant could find no teaching or suggestion in Tsuji et al. which anticipates the photodetector array as set forth in Claim 28.

The Examiner maintains that Jiang et al. (U.S. Patent 5,767,741) discloses each of the photodetector arrays providing output which is sensitive to position of light along a first axis of the photodetector arrays and substantially insensitive to position of light along a second, substantially perpendicular, axis of the photodetector arrays ( Fig. 8; column8, lines 10-35).

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 28-33 and 43-48 are rejected under 35 U.S.C. 102(b) as being anticipated by Jiang et al. (U.S. Patent 5,757,741).

Art Unit: 2653

Regarding claim 28, see Figs. 6, 8 and 9 of Jiang et al. which show an optical head for a read/write apparatus comprising a light source (62), optics configured to deliver at least a portion of light from the light source to a data medium (inherent) and to deliver light reflected from the data medium to first and second spaced-apart photodetector arrays (63), each of the photodetector arrays providing output which is sensitive to position of light along a first axis of the photodetector arrays and substantially insensitive to position of light along a second, substantially perpendicular, axis of the photodetector arrays (column 8, lines 10-35).

Regarding claim 29, see Figs. 6, 8 and 9 of Jiang et al. which show an apparatus as claimed in Claim 28, wherein the first photodetector array includes first, second and third substantially parallel bar-shaped photodetector regions (91, 92, 93) and wherein the second photodetector array comprises fourth, fifth and sixth substantially parallel bar-shaped photodetector regions (94, 95, 96) (column 8, lines 10-20).

Regarding claim 30, see Figs. 6, 8 and 9 of Jiang et al. which show an apparatus as claimed in Claim 29, further comprising circuitry for combining signals from the first, second, third, fourth, fifth and sixth photodetector regions to provide at least a focus error signal and a data signal (column 8, lines 32-42).

Regarding claim 31, see Figs. 6, 8 and 9 of Jiang et al. which show an apparatus as claimed in Claim 29, further comprising circuitry for combining output from the first, third, fourth and sixth photodetector arrays regions to provide at least a first tracking error signal (column 8, lines 32-42).

Art Unit: 2653

Regarding claim 32, see Figs. 6, 8 and 9 of Jiang et al. which show an apparatus as claimed in Claim 30, wherein the focus error signal is substantially a linear function of focus in a focus region including a nominal focus point (column 8, lines 32-42).

Regarding claim 33, see Figs. 6, 8 and 9 of Jiang et al. which show an apparatus as claimed in Claim 29, wherein a size of at least the second and fifth photodetector regions, relative to the first and third regions is selected so as to reduce cross talk between a focus error signal and a tracking error signal (column 8, lines 32-42).

Regarding claim 43, see Figs. 6, 8 and 9 of Jiang et al. which show an optical head for a read/write apparatus comprising: a light source (62); first optics (67) configured to deliver at least a portion of light from the light source to a data medium; and second optics (65) configured to deliver light reflected from the data medium to a first photodetector array (63) and second photodetector array (63), the light delivered from the second optics split into a first beam having a first focal point received by the first photodetector array and a second beam having a second focal point received by the second photodetector array (column 8, lines 1-20).

Regarding claim 44, see Figs. 6, 8 and 9 of Jiang et al. which show an apparatus as claimed in Claim 43, wherein the first photodetector array includes first, second and third substantially parallel bar-shaped photodetector regions and wherein the second photodetector array comprises fourth, fifth and sixth substantially parallel bar-shaped photodetector regions (column 8, lines 10-20).

Regarding claim 45, see Figs. 6, 8 and 9 of Jiang et al. which show an apparatus as claimed in Claim 44, further comprising circuitry for combining signals from the first, second,

Art Unit: 2653

third, fourth, fifth and sixth photodetector regions to provide at least a focus error signal and a data signal (column 8, lines 32-42).

Regarding claim 46, see Figs. 6, 8 and 9 of Jiang et al. which show an apparatus as claimed in Claim 44, further comprising circuitry for combining output from the first, third, fourth and sixth photodetector arrays regions to provide at least a first tracking error signal (column 8, lines 32-42).

Regarding claim 47, see Figs. 6, 8 and 9 of Jiang et al. which show an apparatus as claimed in Claim 45, wherein the focus error signal is substantially a linear function of focus in a focus region including a nominal focus point (column 8, lines 32-42).

Regarding claim 48, see Figs. 6, 8 and 9 of Jiang et al. which show an apparatus as claimed in Claim 44, wherein a size of at least the second and fifth photodetector regions, relative to the first and third regions is selected so as to reduce cross talk between a focus error signal and a tracking error signal (column 8, lines 32-42).

***Allowable Subject Matter***

3. Claims 1- 27 and 34-38 are allowed.
4. The following is an examiner's statement of reasons for allowance:

Independent claim 1 requires an optical head for use in a optical read/write apparatus for use with a read/write medium comprising: a light source, outputting light at an initial light output location; at least a first photodetector array mounted in a fixed position with respect to the initial light output location, the first photodetector array having at least a first surface defining a photodetector plane; and an optical element unit, mounted in a fixed position with respect to the

Art Unit: 2653

light output location, the optical element unit having a first beam shaping optical element and second beam shaping optical element which receive light output at the light output location to modify the angular divergence of the light output, the optical element unit including at least a third optical element configured for directing at least a portion of light reflected from the medium along a path for arrival at the first photodetector array; the optical head providing at least a first optical path, where the first optical path originates at the initial light output location and reaches at least the read/write medium. These features in combination with the other features of the claim are not anticipated by nor made obvious over, the prior art of record.

Claims 2- 27 and 34-38 are allowed with their respective parent claim.

***Point of Contact***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimlien Le whose telephone number is 703 305- 3498. The examiner can normally be reached on M-F 8a.m-5p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on 703 305- 6137. The fax phone numbers for the organization where this application or proceeding is assigned are 703 872-9314 for regular communications and 703 872- 9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 305-3900.

Application/Control Number: 09/540,657

Page 7

Art Unit: 2653

Kimlien Le  
February 6, 2004



**TAN DINH**  
**PRIMARY EXAMINER**